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# Ayurvedic management of Chronic Kidney Disease : A **Case Report**

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# ABSTRACT

Background: Chronic kidney disease is a spectrum of different pathophysiologic processes associated with abnormal kidney function and a progressive decline in glomerular filtration rate. Globally it is the 12<sup>th</sup> cause of death and 17<sup>th</sup> cause of disability. Clinically this condition can be correlated to madumeha and mutrakshaya. Methodology: A 60yr old female patient with uncontrolled type 2 diabetes mellitus and chronic kidney disease (stage 4) was advised hemo-dialysis, which she was not willing to undergo, attended out patient department of Kayachikitsa, at SDM College of Ayurveda & Hospital, Hassan. Patient was treated with shamanaaushadi, Mustadiyapana basti, and with specific pathyaahara. Assessment was done before and after treatment with serum creatinine, eGFR and oedema grade. Result: After 9 days of treatment, there was significant change in the bilateral pedal oedema, urine output, general condition and also reduction in the serum creatinine. Conclusion: Chronic kidney disease was effectively managed by treatment modalities mentioned in Ayurveda after proper assessment of the dosha, dushya and vyadhi avasta.

Key words: Chronic Kidney Disease, Mustadiyapana basti.

#### INTRODUCTION

Chronic kidney disease (CKD) is a patho-physiologic process with multiple aetiologies, resulting in the inexorable attrition of nephron number and function, frequently leading to end stage renal disease (ESRD). These patho-physiologic process should last for more than 3 months to consider CKD. Type 2 diabetes mellitus is attributed as a leading cause for CKD, more common in women and 12<sup>th</sup> leading cause for death. CKD is classified into 5 stages based on GFR - 1<sup>st</sup> and

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2<sup>nd</sup> stage - with normalor moderate raise in GFR presenting with complains like proteinuria, urine abnormalities. In 3<sup>rd</sup>, 4<sup>th</sup>and 5<sup>th</sup> stages the GFR declines and affects other organs. Management of CKD is aimed at slowing down the progression of the disease by protein restriction, glucose maintenance and haemo-dialysis.

CKD cannot be directly correlated to any vyadhi in Ayurveda. Instead, based on the clinical presentation this condition was diagnosed as madhumeha and mutrakshaya, which is vata pradhana tridoshaja vyadhi and the main site of pathology is basti. Basti is one among the tri-marmas and asadyopranaharamarma. This condition was treated on the basis of lakshana and the mutraghata chikitsa. Mustadiyapana basti was the main panchakarma procedure administered.

This patient reported to the Department of kayachikitsa at SDMAHH, already diagnosed as a case of uncontrolled type 2 diabetes mellitus and stage 4CKD. Patient was advisedhemo-dialysis which patient refused and approached our hospital for its management.

### VITAL DATA

Age - 60 yrs

Gender - female

Socio-economic status - Upper middle class

Marital status - married

Education - higher primary school

#### **Presenting Complaints**

#### Table 1- Complains and duration.

SN	Presenting complaints	Duration	
1.	Generalised weakness	2 months	
2.	Loss of appetite		
3.	Nausea		
4.	Burning sensation in the palms and soles		
5.	Pain in the rectal region while defecating and after defecation		
6.	Pain in the low back radiating to right leg		
7.	Shivering of the extremities	1 month	
8.	Swelling in the foot	4 days	
9.	Difficulty in micturition		
10.	Burning sensation while micturating		
11.	Reduced frequency of micturition		

#### **History of present illness**

Patient initially developed with generalised weakness and loss of appetite and intermittent fever about 2 months ago for which she was conservatively treated in an allopathic hospital mean while she was detected to have high blood glucose levels and was treated for this as well. After 15 days she again developed with episodes of fever and burning micturition, again took conservative treatment. One week later she noticed gradual swelling in the feet associated with difficulty in micturition for which she consulted concerned allopathic doctor and after doing necessary investigations she was diagnosed as a case of Chronic kidney disease and was advised haemo-dialysis.

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#### **Clinical Findings:**

#### **Table 2: General examination**

Pallor	+++
Oedema	+++
Weight	58kg
Height	160cm
BP	130/100mmHG

#### **Table 3: Systemic examination**

Per- abdomen	Inspection	Striae +, no other scars		
examination	Palpation	Tenderness + right, left hypochondriac region and right iliac.		
	Auscultation	bowel sounds 4/min		
	Percussion	Tympanic		
Respiratory system	Inspection	Chest symmetrical , trachea – no deviation		
	Palpation	No mass, no tenderness		
	Auscultation	Normal vesicular breathe sounds heard		
Cardio vascular	On auscultation	S1 S2 heard with no added sounds		
Central nervous system		Conscious and well oriented to time, place and person.		

#### Table 4: Local examination

Inspection	Overlying skin - smooth, shiny, taut and hairless, no normal skin wrinkles.
	Absence of normal dorsal finger joint creases, - Loss of normally appearing edges of

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	medial malleoli. Rubor - absent
Palpation	Tumor - <b>present</b> Pitting + on dorsum of foot, 5cm above medial malleoli and
	shin of tibia. Feeling of "valleys b/n hills"
	Pit refilling time (PRT) - More than 50 seconds. Dolor - absent
	Calor - absent
Peripheral pulse - Dorsalis pedis Tibialis posterior	Feeble b/l Feeble b/l
Stemmer's sign	Negative - both foot.

#### Table 5: Assessment of oedema for grading.

SN	Name of the test	Right	Left	
1.	Circumference at the level of medial malleolus.	18 cm	19 cm	
2.	Depatienth of pitting and duration.	4mm >50 seconds	5mm >50 seconds	
3.	Fullness of extremities.	Present	Present	
Pedal oedema of <b>GRADE 3</b> is observed.				

Laboratory Findings

#### Table 6: Complete blood picture -11/1/18

Tests	Observed Value	
Haemoglobin	6.8g%	
ESR	94mm/hr	
RBC	2.64m/CMM	
PCV	20.4%	
МСН	25pg	

_		
	FBS	86.8mg/dl
	Blood urea	88.8mg/dl
	Serum creatinine	4.6mg/dl

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**USG abdomen and pelvis** - Nephritis right kidney with minimal fluid accumulation.

#### **Treatment Given**

#### Table 7: Shamanaaushadi (oral medications)

SN	Day	Shamanaaushadi (oral medications)	Dose
1.	Day 1-10	Tab. Shaddharana Yoga	1-1-1 a/f
2.	Day 1-10	Haritakichurna + Shunti churna 25g each + Gomutra	5ml Bd
3.	Day 3-10	Bilwadi Gulika	1-0-1 b/f
4.	Day3-10	Punarnavashtaka Kashaya	3tsf TID a/f

#### Table 8: External treatment adopted

SN	Days	Treatment procedure	Drugs used.	Time of administration
1.	Day1- day3	Kati Upanaha	Manjishatdi Churna + Asanabilwadi Taila	9:00am - 1:00pm
2.	Day3- day10	Kati- prishta Lepa	Manjishtadi Churna + warm water	2:00pm - 2:40pm

#### Table 9: Schedule for Yapana Basti.

SN	Ingredients	Time of administration	Retention period
1.	Mustadiyapana kashaya - 300ml Ksheera -	Day 1- 9 am	1 min passed immediately after administration of basti dravya.
	100ml Ajapakvashaya	Day- 2 8:15 am	-

mamsa rasa - 50ml	Day – 3 8 am	3 mins
Manjishtadi taila - 80 ml	Day -4 8:00 am	5 mins
Kalka-	Day 5 8:00 am	3 mins
manjishta - 10g Shatapushpa -	Day 6 7;45 am	3 mins
10g	Day 7 8;15 am	< 2 mins
Devadaru - 10g	Day 8 8:00 am	4 mins
Saindava - 10g		
Madhu - 60ml		

#### Table 10: Specific diet advised.

SN	Days	Diet adviced
1.	Day 1- day 10	Laja siddha jala 1 - 1.5 ltrs
2.	Day 3- day 10	Gokshurasidhajala 50 ml BD Rava idly/ravaupma/mudgayusha - morning Yava rotika - 2 afternoon + boiled vegetables (after straining water content) Dashamoolasidha yavagu 150 ml - night

**Outcome:** After 9 days of treatment patient observed significant improvement in generalised weakness, appetite and low back pain. Clinically also significant improvement was observed in pedal oedema and urine output

#### Assessment

Assessment of the patient was mainly based on the changes in the clinical presentations like generalised weakness, pedal oedema, urine output and laboratory investigation – serum creatinine was repeated on every day.

#### Table 11: Fluid intake - urine output

Day	Fluid intake	Urine output
Day 2	1400ml	740ml
Day3	1400ml	680ml

Day 4	1200ml	650ml
Day 5	1100ml	780ml
Day 6	1100ml	900ml
Day 7	1100ml	860ml
Day 8	1100ml	900ml
Day 9	1100ml	960ml
Day 10	1100ml	900ml

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#### Table 12: Serum creatinine levels

Date	Sr Creatinine levels (mg/dl)
11/1/18	4.6
12/1/18	4.5
13/1/18	4.6
14/1/18	4.9
15/1/18	4.7
16/1/18	4.1
17/1/18	4.1
18/1/18	4.0

#### Figure 1: Pedal oedema



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#### DISCUSSION

Type 2 diabetes mellitus is one among the main causative factor of CKD. The presence of high glucose levels for prolonged period leads to the thickening of the glomerular basement membrane and mesangial expansion which further affects the glomerular filteration rate (GFR). As the GFR value decreases, the disease progresses to ESRD and the risk of involvement of other body organs increases. Clinically this condition was diagnosed as madhumeha and mutra kshaya - a type of mutraghata. This is vata pradhanatridoshaja vyadhi. Kupitadosha vitiating rasadidhatu (dhatu already involved in prameha is further acted upon these leading to improper dhatu poshana) sthanasamshraya of kupitadosha takes place in basti (renal system ) and doshasamsarga with mutra, presenting with the symptoms of mutra kshaya.

Shadharana yoga has tikta, kashaya and katu rasa, laghuguna and ushna veerya. This does agnideepana, amapachana and it is mentioned as mahavyadhiprashamana.

Punarnavashtaka kashaya predominantly has tikta, kashaya and madhura rasa, laghu guna and ushna veerya. These drugs act as shothahara. By the diuretic action, it flushes out the toxin and reduces excess fluid retention. Beta sitosterol is one of the active principles present in this which helps in easy metabolism of cholesterol and has anti-inflammatory effect. Thus helps in reducing pedal edema, burning micturition and improves urine output.

Gokshura is a widely used mutrala dravya in the clinical practice. It has madhura rasa, guru-snigdha guna and sheeta veerya. The studies suggest diuretic properties of gokshura aredue to large quantities of nitrates and potassium salts. Haritaki, shunti with gomutra – it has predominantly agni and vayu mahabhuta, ushna teekshna and laghu guna. This acts as medohara and as sramsaka and also helps in alleviating vata and kapha.

Mustadiyapana basti with ajapakvashayamamsa rasa, ksheera and mustadiyapana kashaya was given for 8 days. Ajamamsa is one among the nityasevaniya dravya. Most of the ingredients are tikta pradhana and madhura rasa dravya which does shothahara, Rakta prasadana and medodhatu poshana. It acts both as shodhana and rasayana. The rectal wall has neuro-receptors and pressure receptors which are stimulated by basti dravya.

Along with the above mentioned treatment protocol specific diet with protein and fluid restriction was adviced. The total protein intake was restricted to 34g/day and 1ltr of water/day. The studies suggest that high protein diet increases the intraglomerular pressure and in turn affects the GFR. The recommended protein intake in a case of CKD is 0.6-0.8g/kg/day.

#### **CONCLUSION**

This case of chronic kidney disease, based on its presentation and dosha involvement was diagnosed as madhumeha and mutrakshaya and it was treated according to the chikitsa sutra of mutraghtata. Mutrala and tridosha shamaka mainly kapha and vata shamaka dravyas were used in the management of the disease. With the use Ayurveda medicines this condition was well managed and significant improvemet was observed in this case, but such cases require frequent follow ups and regular medication until the serum creatinine levels comes under normal range.

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